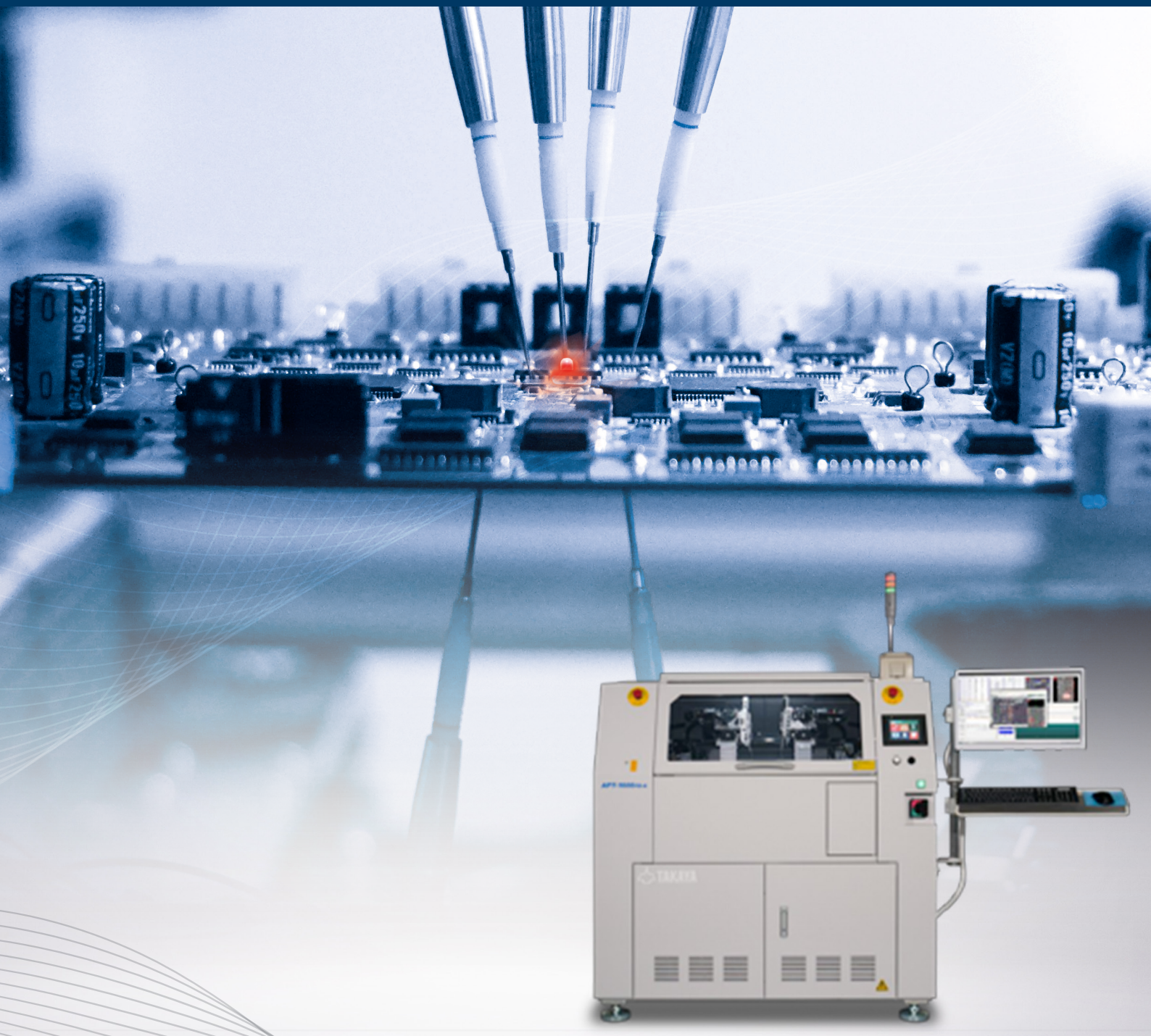
TAKAYA

FLYING PROBE TESTER APT-1600FD



SYSTECH EUROPE

www.systech-europe.de

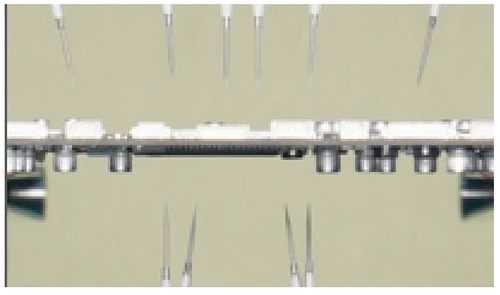
THE NEXT GENERATION
FLYING PROBE TESTER

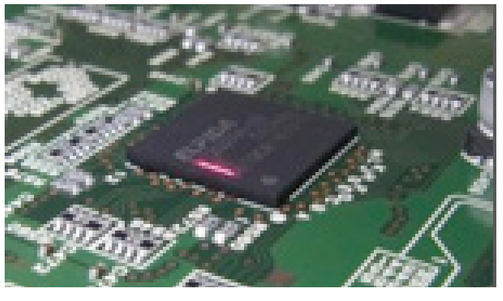
APT-1600FD

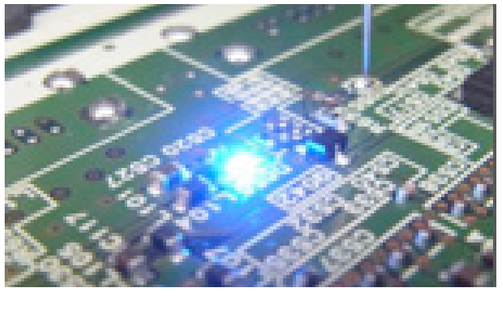
Dual-side Flying Probe Tester

The APT-1600FD Series is a dual-sided flying probe test system which deploys the flying probes to both sides of a UUT. Owing to the dual-sided probing contact, the APT-1600FD Series can contribute to a marked increase in test coverage and also assures the shortest amount of test time.

In addition, the APT-1600FD Series has world-level advantages in test speed and positioning accuracy and is equipped with wealth of extraordinary test functionalities, so that your SMT boards can be tested with ease and precision in a short amount of time.







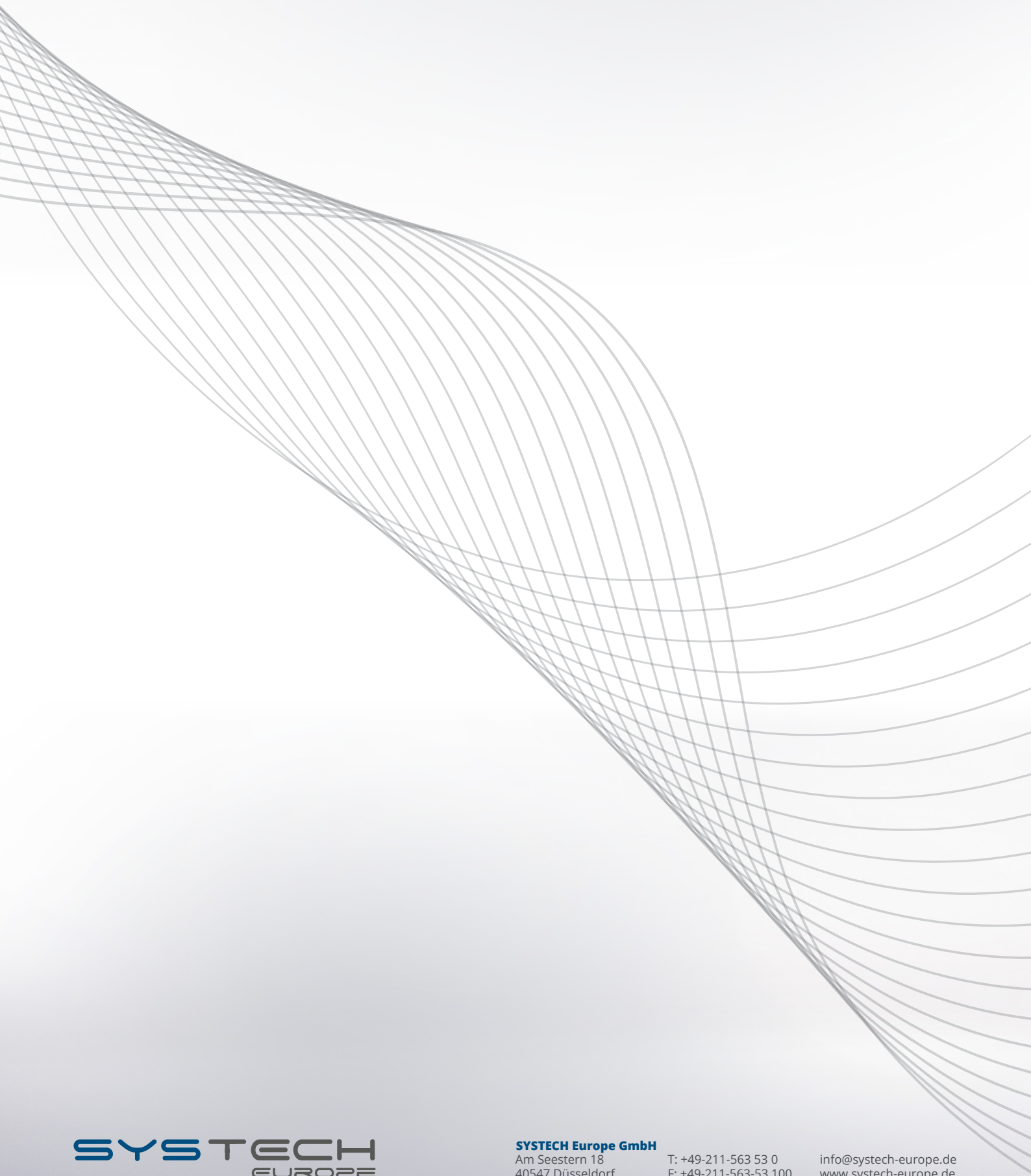
Dual-side Flying Probe Tester

- 4-Heads & 6-Flying Probes from Top,
  2-Heads & 4-Flying Probes from Bottom
  Unprecedented Test speed
- Strong and Rigid Granite XY stage
- High-end & High-precision Measurement Unit
- NSW Test for shortening of test time
- Easy & User-Friendly Software and Security Functi-on
- In-Line System (APT-1600FD-A)
- Attenuating Contact Pressure of Probes
  Flexible PCB Clamp system
- Enhanced Test Area & Clearance
- Realization of Dynamic characteristics testing Easy Connection to External Test Equipment Test Ability in Constant State of Evolution
- Color camera & Vision system for AOI / Real-map
  Laser Displacement Measurement system
- New Software Structure Wealth of Options
- LED ON-Color Test
- Color camera & Vision system for
  AOI / Real-map
- Laser Displacement Measurement system

General specifications APT-1600FD / APT-1600FDA

Flying probes and sensors — Top side	Standard type: 4 tilted contact probes Standard with single Z type: 4 tilted contact probes and 2 vertical contact probes or 2 IC-open check probes (changeable) Standard with dual Z type: 4 tilted contact probes and 2 vertical contact probes and 2 IC-open check probes LED ON-color test sensors: 2 sensors (option)
Flying probes and sensors — Bottom side	Standard type: 2 tilted contact probes Standard with vertical Z type: 2 tilted contact probes and 2 vertical contact probes or 2 IC-open check probes/supprt-pins (changeable) LED ON-color test sensors: 2 sensors (option)
Positioning resolution of flying probes	X and Y axes : 1.25µm (0.05mil), Z axis : 5µm (0.2mil)
Positioning repeatability of flying probe (XY)	±25 to ±40µm (±1.5mil to ±1.6mil) in the high precision mode, approx.
Minimum pad size of probing	60 to 80µm (2.4 to 3.2mil) in the high precision mode
Minimum pad pitch of probing	150 to 190µm (6 to 7mil) in use of needle probes
Test time (at 2.5mm pitch movement)	Combination test : max. 0.02 - 0.03sec. /step, Single test : max. 0.05 - 0.06sec. /step
Signal sources for board test	DC Voltage/current generator -1: Four-quadrant source & measure system, max. ±20V/±1A DC Voltage/current generator -2: Four-quadrant source & measure system, max. ±20V/±1A DC Voltage/current generator -3: Four-quadrant source & measure system, max. ±80V/±1A, option AC Constant voltage generator: max. 20Vpk/100mApk, f=1Hz to 0.5MHz (sine, square or triangle wave)
Measuring ranges	DC Voltage, Current: ±125V, ±2A(max.±40V) or ±1A(max. ±80V, option) AC Voltage, Current: 150mV to 75Vrms, 0.7µA to 70mArms(max. 20Vpk), f = 10Hz to 0.5MHz Frequency: 1Hz to 20MHz Resistors: 5mΩ to 50MΩ Capacitors: 0.5pF to 200mF Inductors: 0.5µH to 500H Impedance/phse angle: 2.5Ω to 3.3MΩ / ±90° Transformers: Inductance, detection of winding, transmission ratio Forward voltage of PN junction: 0.1V to 40V Zener voltage: 0.1V to 40V (Max.80V, optional) Isolation test: Threshold is programmable from 5Ω to 50MΩ Continuity test: Threshold is programmable from 1Ω to 500KΩ Diodes/transistors/FETs: Forward voltage of PN junction, ON test, Gain, Static characteristics Relays/opto couplers/SW devices: ON test Open fault detection of IC leads: Forward voltage measure of PN junction, or IC-open check probes
Displacement measurement system TLS-1	Light source: Red semiconductor laser (Top side) Measuring method: Light/reflective type (laser displacement) Laser beam diameter: 0.25×2.65mm to 0.40×2.75mm (changes by the height of the measurement point) Measuring range: -5.0mm to +50.0mm Repeatability: ±100 µm or less Measuring time: 1ms/point (not included XY movement time) Application: Coordinates alignment by automatic generation of 3D-mapping Non-mounted components, floating components, missing components, etc.
Vision test system TOS-7F	Camera: 1/3"CCD mega-pixel color digital type (dual side) Light source for cameras: Ring-sharped white LED with brightness controllable to 256 steps Application: Coordinates alignment, simple vision test, reading of barcode & 2D code, real-map, etc. Vision test item: Non-mounted components, components shifting, missing components, polarity, color inspection of parts Image registration: Max. 2000 scenes (sum total on the dual side)
LED ON-color test system DOT-1 (option)	Sensor: 12-bit digital type, Sensitive to red, green and blue regions of the spectrum Detectable: Hue, saturation and luminance by R.G.B color ratio Sensing area: 1mm square (in the reference plane), approx. Detection time: 1ms/point (not included exposure time and XY movement time)
Test steps	Max. 350000 steps
Testable boards specifications	Test area (max.): L540 × D483mm (21.3"×19"), Dual side Board size: L50 × D50mm (2"×2") to L540 × D483mm (21"×19") Component height (max.): Top side 60mm (2.4"), Bottom side 60mm (2.4") includes board thickness Board thickness: 0.6 to 5.0mm (0.024" to 0.2") Component free-area: 3mm (0.12") or more from front and rear edges (for board clamp)
Conveyor specifications (APT-1600FD-A)	Transferable board size: L50×D50mm (2"×2") to L540×D483mm (21"×19"), Thickness 0.6 to 5.0mm Transfer direction and height: Left to right (standard), Right to left (option) FL 900mm (-15/+65mm) Transfer belts and speed: Timing belt (anti-static type), 200 to 667mm/sec. (programmable, 6 ranges) Conveyor width adjustment: Front side - fixed, Rear side - auto adjustment (with correction mechanism of parallelism) Interface for loader/unloader: SMEMA standards Entrance shutters (option): Automatic opening and closing Operation panel, Tower light: 5.6" colors TFT touch LCD, Colors lamp (red/green/yellow) with buzzer
Embedded PC and OS	Windows® PC (with DVD drive, HD drive, keyboard, mouse), Windows 7
Display & Printer	LCD : 1920×1080 resolution or higher resolution Printer: Small thermal type (USB connection)
Power and Air supply	AC200 to 240V (automatic change system, single phase) 50/60Hz (max. 4KVA), 0.6 to 0.8Mpa (dry clean air) (USB connection)
Operating environments	Temperature : 16 to 30˚C (60 to 86˚F) Humidity: 30 to 75% (no condensation)
Main body dimensions (W×D×H), Weight	1400×1500×1400mm (55"×59"×55"), 1450Kgs (3200 lb)
Options	NSW test software, LED ON-color test sensors, DC ±80V/±1A programmable source & measurement unit, Function scanner board, Power relay board, etc.

The technology and the options under development are included in specifications as of Nov., 2017.
Specifications are subject to change without any obligation on the part of the manufacturer.



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